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during discovery, also suggested that other model options should be considered. The response of EPA Region 8 or the Department to those recent suggestions by OAQPS is not known.

Model performance results for Calpuff were published as part of the 2002 Department modeling report. Model predictions for calendar year 2000 were compared to observed SO2 concentrations at two monitoring sites. The locations of monitors and major sources of SO2 are shown in figure 1. The monitor located at the South Unit of Theodore Roosevelt National Park provides SO2 measurements representative of the Class I area, while the Dunn monitor is located about 60 kilometers east of Teddy Roosevelt National Park. Distances from the Dunn monitor, which actually is missing from the figure, but it's located roughly there, range from about 50 kilometers to 105 kilometers from the group of plants located to the east of both the Dunn monitor and the South Unit monitor, which is located down here, whereas the distances from the South Unit monitor to those sources range from about 125 to 175 kilometers, so almost twice as far -- the South Unit monitor is almost twice as far from this group of sources as the Dunn monitor.

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Results of the limited comparison performed by the Department show predicted peak 3-hour average and 24-hour average concentrations for the year are within a factor of two of observed concentrations at both monitor locations. Keep in mind with regard to this discussion that some of the results presented yesterday by Mr. Paine relating to the importance of including background concentrations when doing this comparison, which are not included in what I'm discussing here; I'm simply referring to the performance results as performed by the Department.

Results for the South Unit monitor show a consistent bias of overprediction of peak 3-hour and 24-hour average concentrations, while results for the Dunn monitor show little or no bias between predictions and -- peak predictions and observations. With comparisons based on only one year of data from two sites, it is not possible to establish a clear pattern of model performance applicable to all of the Class I areas of concern. What data exists in the Class I area suggests an overprediction bias at the South Unit, but additional performance evaluation data are needed.

The description of the performance

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evaluation in the 2002 Department report indicates the Calmet and Calpuff were tested with a variety of options and parameters settings, but this testing has not been described in reports and no data pertaining to the evaluation study has been released to us on request by either the Department or EPA Region 8. It is therefore unclear exactly how the Department selected the final model options and settings, or whether the chosen settings provided better performance at the South Unit monitor than any of the other alternatives that were considered.

A diagnostic evaluation is a key component of performance testing which I find to be missing in all of the work performed to date. Diagnostic analysis looks for characteristic patterns associated with peak observed concentrations and then examines whether peak predictions follow similar patterns. For example, peak observed concentrations may show distinct seasonal or diurnal patterns, or may be associated with specific types of meteorological conditions. The goal of diagnostic analysis is to assess whether the model is correctly accounting for the processes that lead to high concentrations. EPA guidance on

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model performance testing recommends diagnostic analysis as a basic component of performance evaluation. The Department's report does not describe any such analysis, and, of course, we don't have any such report from EPA.

A comparison of the seasonal patterns of observed and predicted 24-hour average peak values based on the EPA modeling illustrates the type of information that can be developed through diagnostic analysis. This frequency comparison, by the way, is meant more to illustrate the kind of -- the kind of evaluation that's needed and to illustrate what a diagnostic analysis can show, but it's not intended to be an ideal example of such an analysis for a couple of reasons. First of all, the data that we were using in this particular case is comparing EPA's peak increment predictions for the years 1990 to '94 -- this is the modeling -- Calpuff modeling with the Department settings -- versus observed concentrations for the Teddy Roosevelt South Unit for the years 1998 to 2001.

We don't have a direct match in time for the simple reason that the South Unit monitor was not operating through the 1990 to '94 period, but I think this captures just the general flavor of what

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the peak predictions and observations illustrate.
Another thing to keep in mind, these are increment predictions by EPA, so they include not the impact of all sources, but only the impact of the increment-consuming sources. But what we do see is that the peak observed concentrations, this is the frequency -- this frequency -- the frequency distributions for observed concentrations represent peak 24-hour average concentrations in excess of 5 micrograms per meter cubed -- no, I'm sorry, 6 micrograms per meter cubed whereas the peak predicted values are any increment predictions above 5 micrograms per meter cubed. What we see is peak observations occur predominantly, in fact almost overwhelmingly, during the winter season, whereas the peak predictions occur most frequently in the spring, and only rarely do we have high predictions in the winter.
One of the factors for this particular comparison that leads to the low frequency -- I believe to the low frequency of high predictions in the EPA increment analysis during the winter is the fact that, as we've seen before, EPA in their increment analysis completely left out the oil and gas sources, so in fact if what we're seeing in the

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observed data is strongly influenced by oil and gas sources, you would not expect the model to be able to predict a corresponding peak unless you put those sources in the model.
This type of frequency distribution analysis, though, is a critical part of diagnostic analysis, both for 3-hour and 24-hour concentrations, and should have been performed, and we would recommend it for any future modeling.
Having evaluated performance for calendar year 2000, the Department and EPA could, and should, also have performed increment analysis using the 2000 data set. Perhaps modeling other years, as well, but certainly modeling increment consumption for the year 2000. Since model performance was tested only for a single year, it is unclear whether performance results that were obtained for 2000 are representative of how the model would perform for other years such as 1990 to 1994. That's particularly true because in fact there was a different amount of meteorological data used for the 2000 -- for the year 2000 modeling. There was a total of 32 surface stations providing meteorology for the 2000 year compared to only 25 in 1990 to '94. So we would certainly for future

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modeling recommend using the same year to evaluate the model and to perform increment analysis.
As we've noted earlier, EPA did not perform any sort of model performance evaluation either for the settings that they used corresponding to the Department's modeling or to the IWAQM option that they ran, as well.
In light of the prediction bias demonstrated in the limited Department evaluation for the South Unit monitor, and with additional SO2 monitoring data now available from the North Unit since the middle of 2001, a more comprehensive systematic analysis of model sensitivity and model performance to evaluate a broader range of options for the application of Calmet and Calpuff is clearly warranted. If such an analysis were undertaken, options that need to be considered include the following:
First, apply Calmet in conjuction with a prognostic mesoscale meteorological model, such as the Penn State MM5 model. You heard all about that in spades yesterday. I won't belabor that point. Mr. Paine talked about it in far more detail than I'm prepared to, and in fact illustrated how that would be done and why it's of value.

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Second, investigate use of a finer grid. Again, Mr. Paine illustrated an example of how that can be done. Twelve layers is the maximum that the model allows in vertical. Two to five kilometers is certainly better resolution in horizontal.
Third, investigate a wider range of model options, but, equally important, if you're going to do that kind of sensitivity analysis, document the results in such a way that the public and any independent reviewers can see what was done and can in fact assess the merits of the choices that are made.
Third, additional recommendations as I noted before, if the modeling were extended to 2001, there is data available from the North Unit and it would be particularly valuable to have at least two data points within the Class I areas rather than one.
As I noted before, we recommend performing increment analysis and evaluating model performance for the same year -- year or years. Again, as Bob Paine pointed out yesterday, if MM5 data were used, there is regulatory precedent for only performing an increment analysis based on one year of data given the effort and expense that's associated with

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running MM5.
And, finally, as I noted before, but will reiterate, it's critical to perform a diagnostic analysis to ensure that peak predictions and observations occur for similar conditions.
Just very quickly to look at the prediction bias, again, this was discussed in some detail yesterday by Bob Paine, but prediction bias at the South Unit is -- or as illustrated by the data in the Department's performance comparison at the South Unit is important if one puts it next to the modeling that was performed by EPA Region 8. In essence, to cut quickly to the bottom line of it, for the 3-hour average predictions, if you look at the performance data for the South Unit and you look at the highest second high increment prediction in EPA's modeling for the South Unit, we see that peak 3-hour predictions were high by the factor of 1.3 to 1.85. The peak increment prediction for 1990 to '94 in EPA's analysis was only 1.27 times the Class I increment, at least for the South Unit. With no bias there would be no highest second high exceedence of the 3-hour increment.
For the 24-hour increment, essentially the

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peak 24-hour values are high there by 1.35 to 1.85, again, similar to -- Bob Paine went through these results yesterday to some extent. If you actually put them next to EPA's predictions, there's one high value -- the highest second high for 1990 is quite a bit higher than the demonstrated bias, but, otherwise, for 1991 through 1994, again, the increment predictions at the South Unit are consistent with the degree of bias in the model consistent with a conclusion that in fact no increment violation is predicted within the uncertainty of the model.
Finally, I think it's worthwhile to come back, once again, to thinking about the measured concentrations and what they tell us relative to the increment predictions that came out of the EPA Region 8 modeling both for the Department's modeling options, as well as the IWAQM settings, and simply compare the predicted increment consumption based on the 1994. This happens to be just for the South Unit. Compare the increment predictions for the 1994 period to the most recent years of modeling. This is actually data from 1998 to 2001. The South Unit monitor was not operating previously.

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But what we see is that the peak predicted -- peak increment predictions for both modeling options, and these are the impacts only of the increment consumers, during 1990 to '94 are higher, and certainly for the IWAQM settings, substantially higher, than the total concentrations that have been observed in the South Unit for a corresponding period of time. The peak 24-hour values are roughly -- for the IWAQM option they're roughly double what was observed, and even with the Department settings the peak 24-hour impacts are considerably higher. And similar with the 3-hour.
In conclusion, as noted by a number of speakers and just to reiterate, Calpuff is not yet a guideline model. Some type of performance evaluation is warranted before you would apply it for this type of PSD analysis. EPA has not conducted or at least has not documented any performance evaluation or validation study of model performance specific to its application of Calpuff. Documentation of the sensitivity analysis conducted by the Department to select an alternative modeling approach is incomplete. Technical basis for choosing specific model options and parameter values is not adequately explained.

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Other options that were evaluated are not described. And model performance for the IWAQM option is not documented.
At the one monitor representative of Class I area impacts, model performance results for the alternative approach show systematic overprediction bias for peak concentrations. Model results for the IWAQM also are inconsistent with actual SO2 -- observed SO2 concentrations.
Prior to reaching any conclusions regarding model validity for purposes of evaluating North Dakota increment consumption, a more complete and comprehensive model evaluation study is needed. Such a study should, at a minimum, use additional SO2 measurements for both the South Unit and North Unit, use meteorological data for the same period that is used in the increment modeling, and, three, assess whether peak predictions and observations occur for similar events. Thank you.
MR. SCHWINDT: Thank you, Mr. Londergan. We will allow some questions of Mr. Londergan after the lunch break. Why don't we try to reconvene about 1:15 or so this afternoon. Thank you.
(Recess taken at 12:09 p.m. to 1:17 p.m.)

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MR. SCHWINDT: When we broke for lunch, Mr. Londergan had just finished his presentation and we were going to allow some questions of him.

I have one myself, if I can find my notes again. You referenced in your testimony that there were some comments by EPA's office of Air Quality Planning and Standards on the modeling by EPA Region VIII that suggested that other model options should be considered, and you referenced that there was some type of a document to that effect. Are you going to be submitting copies of that document?

MR. LONDERGAN: We got -- we got it from you.

MR. SCHWINDT: Okay. All right. And then are background concentrations normally included in any modeling analysis that is conducted in other areas of the country?

MR. LONDERGAN: Yes.

MR. SCHWINDT: Okay. Any other questions? Paul.

MR. GREEN: Sir, how long do you feel you could hold a sample without it starting to deteriorate?

MR. LONDERGAN: I'm not -- I don't have that kind of expertise on the measurement side.

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We've got measurement people here that have a lot more expertise than I.

MR. GREEN: Is there anybody here that could answer the question?

MR. SCHWINDT: What was the question again?

MR. LONDERGAN: The question was how long can one hold a sample before it begins to deteriorate? And I'm not sure even what type of sample you were referring to.

MR. GREEN: Any air sample you are taking.

MR. LONDERGAN: Well, the ambient air measurements that we're referring to are not based on a sample. They're actually a continuous -- they're continuously monitoring a gas stream that, you know, which is just an air sample that passes through the instrument and is sampled continuously.

MR. GREEN: That's the answer I was looking for.

MR. LONDERGAN: Okay.

MR. GREEN: That's the only way to analyze it. The reason I ask is, the State Health used to have a sample trailer just north of Beulah, by Route 200. They had a vacuum pump there. They did have a heater in there, means of air conditioning, hopefully to keep the ambient temperature on 70,

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summer, winter, which is good sampling, but I used to argue, they used to -- they would take this container, box it up, both ends, and ship it to North Carolina and I said that's like eating a good T-bone steak down here at Jack's Steakhouse, by the time you get to North Carolina the steak is going to be gone. And I was told, no, a sample like that could be held for a month and I said, no, you people just don't understand good sampling. You've got to sample it instantaneous, continuously. Thank you.

MR. SCHWINDT: Any other questions?

MR. WITHAM: Lyle Witham, Attorney General's Office. Mr. Londergan, I'm intrigued by your figure 1 attached to your testimony. I'd like to ask you a few questions about that. And I take it that what that shows is with the observed or monitoring data your highest or peak concentrations appear to be occurring during the wintertime; is that correct?

MR. LONDERGAN: Yes.

MR. WITHAM: Would you -- could you explain in more detail what you observed in terms of the seasonal variations on the observed data?

MR. LONDERGAN: Well, both with regard to the figure that I presented there, as well as --

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this is warming up, we can maybe get that figure -- but what we observed not only in the 1990 to '94 data, but looking at the measurement data from both the North Unit and South Unit, over -- you know, since -- from 1980 on, is a very consistent seasonal period where the peak concentrations are measured very consistently in December and January, from -- you know, so that if you look -- if you just look at the trace, at the monitoring trace over time, you'll see the peaks. You'll see a peak every year in December, January.

MR. WITHAM: And would you comment, if you may, upon how that might affect air quality related values analysis in terms of an impact on fauna, which would be plants and lichens and everything like that, and also impact on visitor experience in the park?

MR. LONDERGAN: Well, certainly air quality related values as it pertains to SO2 directly, the fact that you would have the higher impacts in the middle of winter would mean that there would be minimal effects on vegetation, because the vegetation is generally not during the growing season at that time of year. You know, obviously in the bigger picture, you have issues as -- as John

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Vimont -- or John Notar referred to the other day relating to things like potential for acidic deposition, that kind of thing, but that's a whole separate kind of thing. As far as the SO2, per se, you would expect to have minimal impact on air quality related values in the winter.

MR. WITHAM: You mean, in other words, the higher concentrations in the winter would tend to have less impact than if they would have occurred in the summer; is what you're saying?

MR. LONDERGAN: Right. Yeah. High impact in the summer would be of greater concern.

MR. WITHAM: I'm also -- I'm not quite clear on one of your points in terms of, I think we grant that what both EPA and the Department has done is put together a draft model and we used a model that hasn't gone through the hearing process that you need to have the model approved for application in North Dakota and it has not yet been approved by IWAQM and adopted as a guideline model under Appendix W.

It isn't -- given that, you're not saying that we need to do all those things before we -- before the Department can address the issue of whether the SIP is currently adequate or not in

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terms of whether the PSD increment is -- whether there's a --

MR. LONDERGAN: No. You know, I mean, I do think it would be valuable in the overall context in anticipation that you may be going into a hearing process relative to, you know, getting input on the modeling to do a better job of documenting some of the work that's been done relative to sensitivity analysis and model performance, but I think having done that, I think, you know, while it's not ideal, certainly, you know, there are -- you know, as I've indicated, there are areas for potential improvement. I think in general the framework that you've got is workable.

MR. WITHAM: All right. I don't have any other questions.

MR. O'CLAIR: Mr. Londergan, Terry O'Clair, State Health Department. You talked a little bit about sensitivity analysis. Do you have any recommendations as far as what would that encompass if we were to do further sensitivity testing? Are you looking at one year, two years, five years?

MR. LONDERGAN: I think in general the one year date is adequate for doing that kind of sensitivity testing and we'd be happy to provide

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some more detailed recommendations in our written comments.

MR. O'CLAIR: Is that based upon the MM5 MET data, though?

MR. LONDERGAN: Well, it would be valuable to have. It would be valuable to see how that -- to see the value of that in that context. I certainly -- if, you -- for example, if you went to the 2000 data and, you know, pursuant to what Mr. Paine has already presented, you find that there are clear advantages deriving from using MM5, that's certainly something that should be evaluated as part of the --

MR. O'CLAIR: Thank you.

MR. SCHWINDT: Any other questions? Okay. Thank you.

MS. ROTH: Good afternoon. My name is Mary Jo Roth. I'm the environmental services manager for Great River Energy. I've held this position for seven years now, and in this capacity I'm responsible for permitting and compliance, as well as implementing our environmental policy and maintaining our overall environmental program.

Great River Energy is a generation and transmission electric cooperative. We have 29 member distribution cooperatives, who in turn

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distribute our power to over 1.5 million people.

Our generation system is composed of a blend of baseline and peaking plants. We have coal, natural gas, refuse-derived fuel, and fuel oil plants, as well as wind generation. Two of our plants, Coal Creek Station and Stanton Station, are located in North Dakota.

I'm happy to be here today to talk about our company's commitment to improvement in environmental performance. Great River Energy establishes annual goals. These goals reflect our commitment to environmental performance. They cover a broad range, everything from emissions reductions and research on pollution control technology, to conservation and stewardship. Since 1999 we've summarized our performance as well as future goals in an annual environmental performance report. These reports are widely distributed, and, as a matter of fact, they're also available on our Website if anybody is interested in looking at them.

Our flagship plant, Coal Creek Station, maintains an environmental management system. The system is ISO 14001 certified. ISO refers to the International Standards Organization, and 14001 is a voluntary international standard of excellence for

environmental practices. This standard requires the company to continuously evaluate and improve its environmental performance. We are also in the process of expanding our system to encompass all of our facilities.

There's much I could share about the environmental improvements that we have made. However, I will focus on SO2. Great River Energy has made considerable investments in our plants to reduce SO2 emissions. And I think we have a great story to tell. Significant upgrades have been made to our units at both Coal Creek and at Stanton Station to increase SO2 removal capacity -- or excuse me -- capability. Over $400 million has been spent in the past five years on our scrubbers and related SO2 removal equipment. As a result, between 1999 and 2000 annual emissions of SO2 have decreased by 45 percent at Coal Creek and by 12 percent at Stanton. At Coal Creek alone, the more than 22,000-ton reduction is the equivalent of eliminating one large coal-burning unit or three to four small units. On an efficiency basis, in other words, on a pounds of SO2-per-kilowatt-hour basis, Coal Creek reduced its emissions during the same time period by 50 percent. All of these investments were made

voluntarily. They were not required by statute, nor by regulation nor by permit condition.

We are continuously evaluating our current operations and we are exploring new ways to meet our commitment to protect human health and the environment. We are troubled, however, by the modeling analyses that are the subject of this hearing. We recognize the role of models in predicting impact in this and in many other applications as well. Yet we believe that modeling results need to be applied with common sense and with deference to actual and realistic information.

Actual monitoring data exists for all but the first two years of the post baseline period. These measurements -- as you've seen through the last three days, these measurements show a stable or downward trend in actual SO2 concentrations in the Class I areas since at least 1980. We believe that modeling does not reflect reality where actual monitored data shows otherwise. And we believe that the actual measured conditions establish that the existing SIP is adequate to prevent significant deterioration.

Despite actual ambient air quality measurements showing stable or even declining SO2

levels, Great River Energy has continued to voluntarily reduce SO2 emissions and emit much lower levels. The emissions cap proposed by the Department does not recognize the extraordinary reductions that we have made in proactively reducing SO2 emissions.

Our company has a commitment to our consumers, a duty to our consumers to provide reliable and low-cost energy. We believe we've already stepped up to the plate and voluntarily made significant investments in reducing SO2 emissions. These costs have been passed on to our members already. We would expect that any resolution of this matter would give appropriate credit to our efforts and to our results.

I also believe it's important to keep in mind that emission levels will only continue to decline. Future mandated reductions include, for example, the regional haze rule. This rule will require best available retrofit technology, or BART, on a large number of units in the next 10 to 12 years. Presumptive BART is 90 to 95 percent SO2 removal. These retrofits will have a significant positive effect on SO2 emissions and on ambient concentrations. There's also been considerable

discussion and proposals concerning multi-pollutant standards, which may also entail significant additional reductions of SO2.

Our plants are already tens of thousands of tons below permitted levels. We continue to look for ways to cut back emissions and we will meet all future mandates to further reduce.

In summary, Great River Energy has demonstrated tremendous reductions in emissions through voluntary efforts. We're also committed to meet and endeavor to exceed any new requirements. Such requirements, however, must be based on applicable law, appropriately applied science and common sense. When considering these criteria, Great River Energy does not believe that draft modeling conducted to date is an appropriate basis for any regulatory action. Rather, as we've explained, we believe that actual monitored data conclusively establishes that air quality is being adequately protected and that deference should be given to this very real information.

As a result, we believe that a determination should be made that the North Dakota state implementation plan is adequate to prevent significant deterioration of air quality. Thank

you.

MR. SCHWINDT: Thank you. Any questions? Any questions of Mary Jo?

MR. WITHAM: I'm Lyle Witham, Attorney General's Office. Mary Jo, Mr. Connery testified yesterday about this being, as far as he knew, the first periodic review that's ever been conducted in any of the 50 states under the rule and the federal regs that requires periodic review of the SIP. So there appear to be lots of unresolved issues about how that's to be conducted, et cetera. And we're going to have to make some recommendations as to findings to the hearing officers, all of us that participated here will at least have that option. And I want to go over a few of those options and just have you comment on them.

One of the ways of doing periodic review would be to do it on a set time period, like every two or three years. I'm just going to list them and then you can comment on them. A second way would be to maybe take the State as a whole, look at the current level that was modeled in tons for that whole state and when that was exceeded, that might trigger it.

The third option might be to trigger it on

a plant-by-plant basis, when a particular plant would increase its applications in tons per year over a certain amount. And a fourth option would be to simply readjust the permits and that way we probably wouldn't -- and put on each plant a limit in tons per year and that way we probably wouldn't have to look at doing a periodic review, unless for some reason those permit limits changed.

I know I'm just throwing this at you and you don't necessarily have to answer today, but something you could comment on, just basically your comments or thoughts on those and the fairness to your particular company. And part of the reason I asked you this is the fact that the Department will acknowledge that your company has voluntarily done reductions beyond what's been required and there's some fairness issues on the four options there.

MS. ROTH: Well, I actually appreciate the question and, by the way, I appreciate your recognition of Great River Energy's efforts. I would like to comment on it. I guess what I would like to do is comment on an approach that I would favor and also make a comment on an approach that I would not favor.

First of all, I think it was the second one

that you listed that indicated perhaps we could look at the state as a whole, look at a total tons level above which there may be concern about increment overconsumption. I guess the reason I like that approach is because it would not require say, for example, a regular annual review of the increment. It would seem to me that if we establish at what level air quality is being protected at, we could simply do a review when the emissions in the State rise above that protective level. So that approach would make a lot of sense to me.

I'd also like to comment on the last one, on caps, on emissions caps. I recognize that the caps proposal is not specifically a subject of this hearing, but I have raised it in my testimony. I would like the opportunity to comment on the effect of it. You know, we really believe that not only our testimony but that of others as well has established that the measured levels are already -- that they already show that indeed the air quality is being protected in the State. We don't think that the model shows that caps are necessary.

But I guess having said that, if caps were determined to be necessary, as I testified to, I would expect that we would be given proper credit

for the efforts that we have made. I think it's logical to believe that any company that has made some significant reductions in SO2 emissions would hesitate to take any future protective steps if they don't get any credit for past efforts.

MR. WITHAM: Thank you. I have nothing further.

MR. SCHWINDT: Okay. Thank you. One more question over here. Can you state your name, please?

MR. KOST: Yeah. My name is Dennis Kost. I'm a landowner from in the Washburn area. I live downwind about five miles from Coal Creek plant, and on a daily basis as I look up, I see various clouds and plumes and dark-colored particulate matter and whatever in the air, gases, and so forth. Occasionally, as when the snow will melt, there will be a film of some substance on the gravel in my yard, and I'm wondering what this stuff is. Would you know what this residue is?

MS. ROTH: Well, actually, I wish I could help you, but, you know, not being out there, not seeing it, not analyzing it, I really couldn't answer that question.

MR. KOST: Okay. Where could I go to get

it analyzed?

MS. ROTH: I'm probably not the best individual to answer that as well. This is perhaps something that you could ask of someone within the Health Department.

MR. KOST: Okay. Do you know how many tons of particulate matter and so forth is put out, your plant puts out into the air on an annual basis?

MS. ROTH: Yes, I do know most of those numbers. I would want to refer back in some cases, but all of that information is submitted on a regular basis to the agency. That's all publicly available information.

MR. KOST: I guess I have a hard time believing that the air is as pure and as good as what everybody is talking about having to see what's in the sky on a daily basis and living next to it. Your figures and what you print and the public relations efforts that are currently underway by the energy industry are quite amusing, but in reality I think the general public, the people in North Dakota can see what's really in the air. Thank you.

MR. SCHWINDT: Thank you. Any other questions? Thank you.

MS. ROTH: Thank you.

MR. SCHWINDT: Next, we'll go with the Oil and Gas Association.

MR. DAY: First of all, I'd like to thank you for the opportunity to provide testimony here on the draft modeling analysis of the PSD increment.

My name is Ron Day. I'm with the Tesoro Petroleum Refinery, the HSE manager, or the health, safety and environmental manager out at the refinery. My comments here that I'm presenting are on behalf of the North Dakota Petroleum Council.

The North Dakota Petroleum Council through its affiliation with the American Petroleum Institute and the North Dakota Oil and Gas Association, represents nearly 100 companies involved in all aspects of oil and gas in North Dakota, South Dakota, and the Rocky Mountain Region. Companies represented by the North Dakota Petroleum Council account for 95 percent of the oil production in North Dakota in 2001. In addition, the North Dakota Petroleum Council represents all gas plants in North Dakota, as well as the Tesoro Petroleum Refinery.

There's no question the air quality in and around the Class I areas of North Dakota is the best in the nation and continues to improve due to the

installation of emission control equipment and the elimination of existing emission sources.

You've heard testimony on the utilization of various modeling techniques, inputs, rules and regulations governing the use of these models. You've also heard testimony challenging the validity of the models which are proposed here to predict the SO2 increment consumption and the impacts of that consumption. The intent of these models is to provide us with a prediction of future air quality and to give us the assurance that Class I areas in our state are protected from significant deterioration of air quality. We can verify how well these models predict the future by looking at the past and ensuring that we've adequately and accurately accounted for it. We need to examine and evaluate all historical data at our disposal before we make such a crucial decision about predicting the future.

The North Dakota Petroleum Council supports the use of the model proposed by the North Dakota State Department of Health as a means of providing us with the best prediction of reality. The North Dakota Department of Health modeling protocol utilizes fundamental, sound techniques for

accurately resurrecting an emission history which incorporates the data into an established valid SO2 baseline. This has been notably demonstrated in the establishment of the historic source contribution of North Dakota's oil and gas production activities. Without the oil and gas production and emission data in the baseline, there is no way a model could accurately predict the future reality of the increment. Without inclusion of the oil and gas contribution in the baseline, there's no way to provide the credit for the increment-expanding activities which the oil and gas industry has invested in North Dakota.

Following the years after the baseline date, the oil and gas industry has invested hundreds of millions of dollars in abatement and elimination of SO2 emissions in western North Dakota. The project list includes the construction of gas plants with sulfur recovery units, construction of acid gas reinjection facilities, and the installation of pipelines to connect historically flared production wells into a gas gathering system for processing. As a result of this investment, the average gas consumed on lease has shrunk from 20 percent in 1984 to 4 percent today. Obviously, the investment of

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the oil and gas industry to reduce SO2 emissions has had a significant positive impact on North Dakota's air quality.

The Class I air ambient air monitoring data as presented by the North Dakota Department of Health testimony earlier verifies the evidence that positive improvement, including a graph presented by North Dakota Department of Health of the downward trend of the ambient SO2 concentrations.

The North Dakota Petroleum Council believes the North Dakota Department of Health modeling protocol supports what we have seen from ambient air monitoring data to date. It is clearly understood that ambient air monitoring locations do not cover all receptors in the Class I area and do not take into account all potential meteorological conditions. However, this data should be used to help us understand what impact historical increment consumers versus increment expanders have had on the Class I areas. This data should be utilized to give the agency guidance in setting modeling protocol to best predict future air quality.

In summary, as the process continues and we move beyond the modeling increment -- the modeling of the increment to setting requirements to emission

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limitations, we must ensure that the historical increment expanders are accounted for accurately and justly. The oil and gas industry emission reductions must be incorporated into the process and fully recognized in the future. The volatile nature of the oil and gas industry has created much uncertainty in North Dakota. The State must recognize the major investments made by the oil and gas industry in reducing emissions. New requirements that impose additional financial burdens will have a negative impact on this industry. This may very well limit the future expansion of the oil and gas industry in North Dakota and limit its ability to provide energy to the nation. This ultimately could have a negative impact on jobs, tax revenues in western North Dakota and the State of North Dakota. Thank you. And if you have any questions, I'd be glad to answer them.

MR. SCHWINDT: Thank you, Mr. Day. Any questions? Seeing none, thank you.

MR. DAY: Thank you.

MR. SCHWINDT: Next, I'd like to call on Minnkota Power.

MR. GRAVES: Good afternoon. My name is John Graves. I'm the environmental manager for

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Minnkota Power Cooperative, located in Grand Forks, North Dakota.

Minnkota Power is a generation and transmission electric cooperative supplying wholesale electric power to 11 electric cooperatives in eastern North Dakota and northwestern Minnesota. We also are the operating agent for the Northern Municipal Power Agency, which serves 12 municipal utilities in the same geographic area. Minnkota Power operates Milton R. Young Station located near Center, North Dakota, approximately 35 miles northwest of Bismarck. Milton R. Young Unit 1, a 250-megawatt lignite-fired cyclone unit is owned by Minnkota. Milton R. Young Unit 2, a 455-megawatt lignite-fired cyclone unit is owned by Square Butte Electric Cooperative.

We appreciate the opportunity to provide our comments concerning the termination of the adequacy of the North Dakota State SIP to prevent significant deterioration under the PSD program. Most of my comments have been reiterated -- or, rather, have been mentioned many times and been gone into in great detail by others previously, so most of them, as I indicated, will be duplicative, and I will try and keep them brief.

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We've tried to address not only the State's model, but you requested comments concerning EPA's modeling and we have previously submitted our comments to them. For the record, I have provided a complete copy of our comments that we have previously made to the EPA, and briefly commenting as follows. As other people have indicated, we believe that the emissions from the oil and gas wells must be included in their modeling. And, obviously, due to the close proximity to the Theodore Roosevelt National Park areas, they can have a significant impact on the increment expansion. Their exclusion from the modeling analysis could result in the model indicating erroneous exceedences of the increment.

The EPA in their modeling analysis discussed the need to treat emissions on a comparable basis in calculating 3-hour and 24-hour emission rates. However, the use of emission rates computed on the basis of AP-42 for comparison with emission measurements by CEMs is not an apples-to-apples comparison. Calculated rates should be adjusted upward to account for the average error in the CEMs during the 1999-2000 time period. As has been indicated by one of the previous speakers,

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another alternative would be to adjust the CEMs data as well.

When calculating emission rates, the analysis strives to use consistent methodology for determining emissions in the base year and the current year in order to provide comparable data sets. This can result in erroneous representative emission rates. The emphasis should be on using the most accurate rates consistent with the legal definitions, regardless of the methodology used to obtain them.

The method for calculating the base year short-term emission rates is without a sound basis. Typically, power plants conduct a uniform rating of generating equipment test at least annually. It's commonly known as an URGE test. Some plants do these tests twice a year. This means the boilers will operate at their maximum capacity for at least four hours. Typically, the boiler will be at this condition for five hours. This was taken into account in utilizing the CEMS data, but is not taken into account when the EPA utilized the AP-42 generated data. The maximum allowable emission rates would be a more representative emission for the short-term rates.

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The allowable emission rate should be utilized for Milton R. Young Station Unit 2 in the Montana Class I increment; that is, if you are going to conduct -- utilize that Montana Class I increment analysis. This method is preferable as the source has not yet attained normal operation for a period of two years.

Two sources, the Little Knife Gas Processing Plant and Dakota Gasification Plant should not have been included in the increment analysis as these sources were granted variances from the PSD increment consumption restrictions when the Federal Land Manager certified there would be no adverse impact due to the projected increases in the ambient concentration of criteria pollutants, when they were permitted. These sources should only count against the alternate increment as provided in paragraph 165 of the Clean Air Act.

The EPA analysis uses the 90th percentile actual emissions for each unit. The basis for this was, and I quote, this seems like the representative method of determining current-year emissions and provides a reasonable estimate of worst-case conditions that may reoccur in the future. However, this is contrary to the North Dakota Administrative

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Code Chapter 33-15-15, which requires the use of actual annual emissions in tons per year for calculating PSD baseline concentrations and increment consumption.

As you've heard many times previously, the ambient air monitoring data for Theodore Roosevelt National Park North and South Units shows SO2 concentrations have stabilized or decreased over the last 21 years. The trend for the SO2 concentrations shown by the model does not show a decrease in concentrations similar to the trend shown by the monitoring data. This indicates that some increment-expanding sources are not adequately accounted for.

As an assessment, the modeling analysis should not be attempting to make a reasonable estimate of worst-case conditions that may reoccur in the future, but should simply assist in the determination of whether the North Dakota SIP has protected the increment to date, rather than trying to predict future worst-case conditions that may not occur.

We also indicated that we believe the EPA's analysis was unwarranted or at a minimum premature in view of North Dakota's current hearing. 40 CFR

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51 places this responsibility and authority to conduct an assessment with the states.

With respect to the analysis conducted by the North Dakota Department of Health, we have the following comments:

As indicated by our comments to the EPA, we believe the Department utilized the appropriate modeling methodology by recognizing all the Class I variances that have been granted and, as a result, have not included them in the assessment of the increment consumption.

Minnkota supports the Department's decision not to retroactively apply Class I sulfur dioxide increments for redesignated areas in Montana to sources which have been issued construction and PSD permits prior to the redesignation. Not only would it be akin to an ex post facto law, but the results may be meaningless due to the Calpuff models overprediction at these distances from the sources.

We believe the Department's approach for establishing a single baseline concentration for a particular area, adding the relevant increment concentration and then comparing the spatial average concentration established by the modeling of all sources and increment-expanding sources against this

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established baseline is allowable under the North Dakota Administrative Code 33-15-15, the approach which has been referred to previously as the MAAL.

When calculating emission rates, we support the State's methodology for using the annual emissions on a ton-per-year basis. Additionally, North Dakota Administrative Code 33-15-15 indicates that the actual emissions must equal the average rate in tons per year at which the unit actually emitted the contaminant during the two-year period which preceded the particular date and which is representative of normal source operation.

When a source has been issued a permit to construct, but has not entered normal operations for a two-year period preceding the particular date, the Department may presume that the source-specific allowable emissions for the unit are equivalent to the actual emissions. This particular set of circumstances applies to Milton R. Young's Unit 2. We believe that this methodology should be applied when calculating the baseline emissions for Unit 2.

As I indicated previously, when comparing emission rates calculated using AP-42 to those measured by CEMs, the rates calculated utilizing AP-42 should be increased to make them comparable to

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those measured by the CEMs during the 2000-2001 time frame. This adjustment would have to be made on a case-by-case basis as different sources had different percentages of errors in their CEMs during the 2000-2001 time frame. And as has been demonstrated by one of the previous speakers, not only may it be due to the error in the CEMs, but it may be due simply on the basis of comparing the methodology employed by AP-42 to that of the CEMs. In the case of Milton R. Young Station Unit 2, if the allowable emissions are not utilized as the actual emissions for the model input, this would mean that the baseline emissions should be increased by 10 percent. This was actually on the low side of the calculated error for that particular monitor, monitoring system during that time frame.

Based upon the input from our consultant, Bob Paine of ENSR, who you have heard from previously, the Calpuff model as run using the procedure selected by the State and the EPA is expected to overpredict by a factor of approximately 2 when used in this modeling scenario.

Many years ago, Gene Christiansen, who was director of the environmental engineering division at that time told me, air dispersion models are only

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tools. They must be used with common sense. You cannot make your decisions based solely on them. When looking at the State's model results, the fact that the results were very conservative based on the overpredictability of the Calpuff model and the trend of the measured ambient air concentration for sulfur dioxide at the Theodore Roosevelt National Park North and South Units over the last 21 years, it is not only clear that the State's proposed determination that the North Dakota SIP is adequate to protect the Class I increments is appropriate, but that no changes in the various air permits issued by the Department are necessary at this time.

This concludes my testimony. I would be happy to take any questions that you may have.

MR. SCHWINDT: I have one, Mr. Graves. Have you calculated the difference in rates for your two facilities based on AP-42 factors versus what the CEMs data indicates?

MR. GRAVES: No, we have not. My statement was based not on that, per se, but on the fact of some of the modeling -- rather some of the air exhibited by the CEMs system during that time frame. In 1999 the EPA revised their reference method for CEMs, because it was recognized that the CEMs

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systems on particular plants were in error and reading high by as much as 20 percent. It varied from plant to plant.

We were not able to implement those corrections in our testing in utilizing the reference methods until actually last year, late last year. So we do know that in the case of Unit 1 -- rather, in the case of Unit 2, we were over-reading by approximately -- by as much as 10 percent and, actually, we were as high as 17 percent at various times.

MR. SCHWINDT: Do you believe the same error exists even in the 2001 data?

MR. GRAVES: For the most -- due to the time period in which we made our corrections, for the most part it does, yes.

MR. SCHWINDT: Okay. Thank you. Any other questions? Lyle.

MR. WITHAM: Mr. Graves, Lyle Witham, Attorney General's Office. Mr. Graves, somebody made the comment at lunch that this hearing has been characterized by English majors giving opinions on engineering questions and engineers giving opinion on legal questions. I don't want to compound that by asking you this question, but this case does

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involve mixed questions of law and engineering that are pretty hard to separate, express in English.

I'm not clear from your testimony what you're saying in terms of what data we should be modeling in terms of SIP compliance review here. Are you suggesting we should be using allowable emissions in the models for that, or should we be using actual emissions?

MR. GRAVES: I think the State has demonstrated, you know, that certainly using actual emissions is within the regulations. However, it has been pointed out by other speakers that it may also be acceptable to use the allowable emissions as well.

MR. WITHAM: What about the question that I asked Mr. Fry yesterday, that the statement in the preamble to the '80 rules that if increment calculations were based on allowable emissions, EPA believes that increment violations would be inappropriately predicted and, in fact, when in the past modeling, in fact, for the Minnkota facility itself, we used -- in '99 when we did that draft modeling, again, that was a draft modeling exercise, the predictions at that point showed violations similar to when the modeling was done on the

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Mesopuff model in 1982. So would you comment on that?

MR. GRAVES: Would you repeat that last portion there again?

MR. WITHAM: I guess my general question is, we already know when we use allowable emissions using several different models that increment violations are predicted. We don't know whether that's the case when you use actual emissions.

MR. GRAVES: I think in the case of where you have a unit that has not reached normal operations that -- which normally -- which would generally apply to those baseline -- to a baseline unit, that the regulations give the State the option of using the allowable emissions and I think that would be appropriate.

MR. WITHAM: So your comments really are what goes into the baseline rather than what -- is that fair?

MR. GRAVES: That's a fair characterization, yes.

MR. WITHAM: With regard to Mr. Christiansen's comment that you referenced, I heard another statement similar to that recently and it was that all models are wrong, but some models

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are useful. Would that be an accurate paraphrase of Mr. Christiansen's statement?

MR. GRAVES: Well, I don't know that it would be an accurate phrase of what he told me, and I can't say that I ever heard him make that statement. I only know what he told me in one of our discussions.

MR. WITHAM: All right. Thanks. Nothing further.

MR. SCHWINDT: Any other questions? Thank you, Mr. Graves. I'd like to call on Montana-Dakota Utilities.

MS. STROMBERG: My name is Andrea Stromberg. I'm the environmental manager for Montana-Dakota Utilities Company. MDU is a combination electric and gas utility that serves about 300,000 homes and businesses in five states. The company employs over 1,000 people and is headquartered here in Bismarck. MDU owns and operates the Heskett Station in Mandan, the Lewis and Clark Power Plant in Sidney, Montana, and is the co-owner of the Coyote Station in North Dakota and the Big Stone Plant in South Dakota. Montana-Dakota Utilities is a division of MDU Resources Group, a diversified national resource company.

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I am pleased to have the opportunity to testify before the Department of Health regarding the adequacy of the Department's state implementation plan to prevent significant deterioration of North Dakota's air resources and further request that my remarks be incorporated into the record of these proceedings.

Montana-Dakota Utilities believes that the implementation structure imposed by the federal Clean Air Act confers upon the State of North Dakota the authority to select air dispersion modeling methodologies and protocols necessary to evaluate and protect air quality, including PSD increments in Class I areas of the State.

The federal Clean Air Act requires the U.S. EPA to establish national ambient air quality standards or NAAQS. Once established, the states have the primary responsibility for achieving and maintaining the standards. EPA has a secondary, not a primary role, when it comes to matters involving the manner in which the ambient standards are achieved, maintained, and enforced by the states in the state implementation plan or SIP.

The State of North Dakota has established air pollution control laws that authorize it to

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assume authority over the Clean Air Act permitting programs delegated by the EPA. The EPA has approved North Dakota's PSD program as reflected in the North Dakota SIP.

The PSD program requires, among other things, the assessment and quantification of increment consumption in air quality control regions that attain the ambient standard, including the so-called Class I areas.

As provided in the Federal Clean Air Act, and the concepts of federalism embedded in the Act, EPA should defer to the State's reasonably calculated efforts to accomplish this assessment.

MDU supports the Department's air dispersion modeling approach. With some modifications, MDU believes that the Department's modeling methodology is a reasonable and technically defensible approach for evaluating PSD increment consumption. MDU's team has carefully reviewed both EPA's and the Department's modeling, including the emissions data, meteorological data, and modeling methods used by each agency. Our primary concerns with the EPA modeling are summarized in an April 29, 2002 letter to Mr. Richard Long at EPA. A copy of this letter is attached to my written testimony.

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Based on our review, MDU supports the State's increment analysis approach in three ways that it differs from the EPA analysis. First, MDU agrees with the Department's methodology of selecting the second high baseline prediction to determine the maximum allowable ambient level or MAAL for each averaging period for each Class I area. Under this approach, a MAAL is established by taking a fixed modeled baseline concentration and adding the allowable increment. Concentrations are then modeled using the current source inventory. These modeled concentrations are then compared to the MAAL. If the resulting second high prediction for the current source inventory is less than the MAAL for the Class I area, compliance is confirmed. Compliance is determined independently for each SO2 averaging period and each Class I area.

The intent of PSD increment consumption analysis is twofold; first, to determine increment consumption as a change in impact at the Class I areas from the baseline year to the current year, not to compare baseline to current emissions at the sources, and, second, to assess the actual impact at Class I areas, not to simulate a worst-case emission scenario. By establishing a single baseline

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concentration for each Class I area and each averaging period, the actual air quality deterioration in the Class I areas can be determined. If the focus of the modeling is on the change in emission as provided in the EPA model rather than the change in impacts, the preexisting or historic emissions in the baseline concentrations may not be properly accounted for.

MDU believes the Department's modeling approach and use of MAAL more accurately addresses the intent of PSD regulations in this regard. This conclusion is based in part on a comparison of the model results to actual monitored air quality data from Theodore Roosevelt National Park. Under PSD monitored data are intended to augment modeling as is necessary to confirm and enhance the credibility of computer-generated air dispersion models. As intended under the federal Clean Air Act, the Class I monitoring from 1980 to approximately 1995 should enhance the confidence in, and confirm as reasonably appropriate, the Department's technical decisionmaking processes that have informed the model outputs.

Second, MDU concurs with the Department use of spatial averaging in Class I areas. MDU agrees

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that using receptor averaging to derive uniform prediction over each Class I area provides the most accurate predictions. At the distances modeled, Calpuff's simulation of a plume's trajectory is known to be inaccurate by as much as plus or minus 20 degrees. By averaging concentrations across each Class I area, Calpuff's plume trajectory error is minimized. Furthermore, at these distances from the major sources, the plumes would be well mixed and dispersed such that significant differences in concentrations across a Class I area would not exist.

Third, while not MDU's preferred alternative, the Department's use of the annual average SO2 emission rates derived from data in annual emission inventory reports can represent a reasonable means of determining the baseline concentration and current emission inventory, both of which have been used in the Department's modeling.

While MDU supports the Department's modeling in general, MDU suggests the Department make the following refinements as part of their analysis. MDU believes the Department's current approach of comparing AP-42 to CEMs data for average

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annual emissions is inconsistent. MDU encourages the Department to compare either AP-42 to AP-42 data or CEMs to CEMs data. CEMs data could be used if a data set was developed to represent CEMs data for baseline emissions.

The Department is authorized under its rules to assume allowable emissions are equivalent to actual emissions for purposes of establishing the baseline concentration. MDU strongly endorses the use of allowable emissions for this purpose. A failure to utilize allowable emissions to establish the baseline concentration will preclude sources from relying on legally authorized and permitted emissions limits to operate flexibly and meet constantly changing demand for their products. The approach is consistent with well-accepted PSD and NSR permitting concepts where increases in hours of operation, absent any physical or operational change at a source, do not trigger permit modification provisions so long as allowable emissions limits are not exceeded.

The accounting for allowable emissions in the baseline concentration, rather than fluctuating actual emissions, is a more appropriate approach for the Department to utilize as it accounts for and

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preserves unused, but permitted capacity utilization and the capital investment associated with constructing the same. More pragmatically, permitted allowable emissions reflect the design and expected operation of the facility and, therefore, are a direct reference or anchor to normal source operation.

MDU cannot support emission caps that roll back presently and historically permitted allowable emissions that should be reflected in the baseline concentration and not be considered increment consuming. The PSD rules call for increment consumption to be evaluated in light of current actual emissions not otherwise reflected in the baseline concentration. The rules do not further indicate that actual emissions that are modeled for this purpose should become new emission limits. MDU concurs that actual emissions should be used when determining PSD increment consumption; however, there is no provision to make these actual emission values new permitted allowable emission limits.

Even if MDU did not strongly object to the Department's proposal to roll back permitted emissions limits by reference to actual emissions utilized in the Department's modeling analysis, the

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application of the rollback is inequitable, particularly where our Heskett Station is involved.

Heskett Station is already an increment-expanding facility. The rollback that the Department has proposed would reduce Heskett's allowable emissions by nearly 70 percent, while others in the State have not been targeted for similarly substantial and enforceable emissions reductions.

In closing, as the Department recognizes, North Dakota's air quality is some of the best in the nation and data show our air quality has improved since the baseline years in the late 1970s. The steps the Department has taken and that MDU endorses, as qualified today, will ensure that the quality of our State's air resources will not deteriorate. Thank you.

MR. SCHWINDT: Thank you. You mentioned that you believe that the Department should use either AP-42 or CEMs data in both baseline and current emissions. Do you have any recommendations on how something like that could be done, you know, for baseline conditions because there aren't any CEMs data available back then or how it could be done using AP-42 factors and compare that to CEMs

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information?

MS. STROMBERG: Well, I think we've seen some examples here today of people that have looked at how to do that, and I believe it's possible. I guess, could I give you an example right now how to do it? No, but I believe it's a feasible exercise.

MR. SCHWINDT: Okay. Thank you. Doug? Any other questions?

MR. WITHAM: Lyle Witham. I would just like to give you a chance to respond to the same question I asked Mary Jo a little bit ago, because I think there are some fairness issues clearly with MDU in terms of looking at a cap both because of its location and its operation way below its allowable levels. So I'd like to give you an opportunity to comment on this, too.

As I said, Mr. Connery, in his testimony, said basically this is the first permit review on SIP adequacy -- first SIP adequacy hearing that he was aware of in any of the 50 states and the rules as to periodic review are not -- in fact, there are none that I can find. And one of the things we have to do is make some recommendations to the hearing officers, or at least we'll have that option afterwards.

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And there are at least these four options and there are perhaps many others, but one option would be to -- I'm going to give you all four and you can comment on which one -- would be just to do a periodic review of the adequacy of SIP on a set time period basis like every year, every two years, every three years, every five years. Another option would be to have it triggered by some mechanism, either on a total tons per year in the State basis or within this particular region as defined by our rules. Another option would be to have it triggered when a particular major source increased emissions by a set amount that would raise concern about whether the increment was being violated on tons per year or some other basis. And a final way to do it would be to do permit revisions on a plant-by-plant basis and then once you have those locked in, you probably wouldn't need to do a periodic review unless there is a violation of those permits or there is an application for a new permit.

So those are your four options and there might be others. I just -- those are the four I can think of.

MS. STROMBERG: Well, it seems to me that most of the work would fall to the Department so you

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probably have some thoughts about whether you want to do an annual review or not. It seems to me it's really very practical to look at your annual emission inventory data and CEMs data on a routine basis and see if there's been increase, significant, that you feel is significant in terms of the total tons. You get that information on a regular basis and it's quality information. So looking at a trigger that the Department has determined based on the modeling you've looked at that may be significant in terms of the increment makes a lot of sense to me.

MR. WITHAM: Okay.

MS. STROMBERG: But I would also comment on your fourth option. I think I have stated strongly that in our case where we are an increment expander and we actually have taken a reduction in our permitted maximum at Unit 2 since the baseline was set, we have a hard time swallowing any kind of further reduction that limits our ability to use those plants.

MR. WITHAM: All right.

MS. STROMBERG: Thank you.

MR. SCHWINDT: Any other questions? Bob.

MR. HARMS: Andrea, I have what may be a

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softball for you, but I'm interested in hearing your answer. All this -- Bob Harms, for the record. The last three days I think we've all been, I'm hoping, learning some new things and maybe reevaluating some thoughts and analyses that we've done trying to get our arms around this problem. And I guess what I'm curious about is, on the one hand we've got some concerns, whether they're well-founded or not, concerns about health-related issues. On the other hand, we have companies faced with the potential of having to invest tens, if not hundreds of millions of dollars based upon modeling analyses that we've heard in the last three days and how that compares with monitoring data that has been discussed.

Here's my question. If you were the hearing officer or if you could be king for a day and help us or --

MS. STROMBERG: Does queen work?

MR. HARMS: -- or queen for a day. Excuse me. If you could rule for a day and solve this entire problem for us, what kind of outline or solution would you suggest we look at?

MS. STROMBERG: Well, that's a loaded question, Bob. And there's a lot of ways a person could answer that. First of all, I was interested

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in your statement that there is health concerns and I know that you know that I know that the issue before us hopefully is not a health issue. There's no indication that the levels that we're concerned about with the PSD issues are a health concern, but I also understand there's an issue here in this state that's been brought up about health issues, which certainly, you know, I think we have to rely heavily on the federal EPA and their evaluation of the -- their periodic review of the ambient standards as adequate to protect human health and the environment. So I think in that case we do need to defer to the research that's been done by the federal agency in term of health issues and are we in compliance with all that so I don't want to talk any more on that issue because I'm not qualified to do that.

You talked about company's being asked to make investments for controls based on modeling results and how would I view that. I think that this has been a very interesting and valuable public hearing in that we have heard so much about new information and new ways, better ways, I think, from what I've seen, to use the information that we do have. And I guess some of the information I heard,

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in particular from Basin's witnesses, tells me that there are far better tools than we have had access to in the past to actually evaluate what's going on in the SIP. And I think before anybody does anything we need to really step back and look at that and some of the new meteorological data. Certainly -- I tell my company all the time I'd rather have data I don't like than no data, but I think there's data here that we do like or that could be -- maybe "like" is not the word, but it's good. It's real data. It's better data, and let's look and see how that really does -- what that really does mean to this program and to our state before we go ask anybody to put $200 million into a scrubber, especially in light of the fact that there are so many regulatory initiatives coming ahead of us in the next few years that will likely require significant changes to those plants, anyway. Is that answer good enough?

MR. HARMS: I think so. I'd like to just follow up. Do you think your company, for example, would support a process where the State treats the current problem that we face as really an opportunity to do kind of what you were suggesting, that we take a look at the new technology, the new

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sophisticated techniques that we've heard for the last few days and essentially try to ramp up, if you will, or refine a new process that we're now engaged in, a new periodic review process that we're the first state in the country to be involved in these kind of proceedings? What would be, do you think, your company's reaction to that kind of a --

MS. STROMBERG: Well, it depends on how much it hurt, but assuming it doesn't hurt, I think it's great. I mean, North Dakota apparently has been on the cutting edge for a long time here. No reason to retreat. I think that as we try to permit a new power plant, maybe this is where your question is heading, we're going to have to look at the best information available to us to do the best possible job not only to design, but to permit that plant. So it seems appropriate to me as we move into this, really what I think is a new regulatory era, the low-hanging fruit is gone. We are fine-tuning what we've got and building new types of technology that it's time maybe to, as you say, ramp up, take a hard look at what we've done, at what's available and maybe do it differently.

MR. HARMS: Okay. No further questions.

MR. SCHWINDT: Any other questions? If

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not, thank you, Ms. Stromberg. Why don't we take about a 15-minute recess right now and come back about a quarter to 3:00.

(Recess was taken at 2:27 p.m. to 2:45 p.m.)

MR. SCHWINDT: We'll proceed next with the Lignite Energy Council.

MR. BURGESS: Good afternoon. My name is Jeff Burgess. I'm the manager of environmental services for the Lignite Vision 21 Program. On behalf of the Lignite Vision 21 Program I'm providing testimony in support of the North Dakota Department of Health's technical assessment and proposed determination indicating that there are no violations of the applicable prevention of significant deterioration, PSD, increments for sulfur dioxide, and that the current North Dakota state implementation plan is, therefore, adequate to protect the applicable PSD increments and to prevent deterioration.

Additionally, I'm providing comments concerning the March 5th, 2002 U.S. Environmental Protection Agency, EPA, correspondence and attached dispersion modeling analysis of PSD Class I increment consumption in North Dakota and Eastern

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Montana, dated January 2002. I also reserve the right to provide additional written comments by May 15th, 2002.

The Lignite Vision 21 program is a partnership between the State of North Dakota and the North Dakota lignite industry with the established purpose of promoting the use of its vast national resource for the generation of clean, low-cost electricity to meet the growing energy needs of this region. The Lignite Vision 21 Program is strongly committed to participating in the development of a North Dakota-based approach that is based on sound science and achieves state and national goals in a rational and cost-effective manner. In this spirit the Lignite Vision 21 Program is offering comments on both the EPA analysis and the Department of Health's technical assessment and determination. And at this stage of the week I do not have a lot of additional revealing points that have not already been discussed, but I do think it's important with all these independent people that have come to testify that have reached various similar conclusions and I think that the more people making the same points, it only goes to show the persuasiveness of the evidence. So I will

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continue.

EPA modeling analysis: Given that North Dakota has an EPA-approved PSD program and because the Department is in the midst of a public comment period, EPA should respect and defer to North Dakota's ongoing administrative efforts.

Summary of Lignite Vision 21 Program comments: Following is a partial summary of the technical concerns that have been identified.

One, EPA's analysis relies fully on a proposed, yet never finalized air quality model that has never been validated for the purposes for which EPA is now using it; namely, for PSD increment regulatory purposes.

Two, EPA has applied its analysis to include the Fort Peck and Medicine Lake Wilderness areas in Montana, which are well beyond 200 kilometers from the sources in North Dakota. These distances are beyond the recommended application range of the Calpuff model. EPA has been a participant in the development of the IWAQM Phase 2 Summary Report and Recommendations for Modeling Long Range Transport Impacts, 1998, which, quote, concludes that Calpuff can be recommended as providing unbiased estimates of concentration

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impacts for transport distances of order 200 kilometers or less, and for transport times of 12 hours or less. For larger transport times and distances, our experience thus far is that Calpuff tends to underestimate the horizontal extent of the dispersion and hence tends to overestimate the surface level concentration maxima, end of quote.

Performance evaluation criteria indicates predicted/observed ratios of a factor of 2 as being satisfactory. With regard to the performance evaluation, all of the modeled predicted concentrations at the Theodore Roosevelt National Park South Unit are greater than the 3-hour observed concentrations by approximately 25 to 50 percent. The modeled predicted concentrations for the 24-hour period are higher than the observed values when the observed concentrations are greater than six micrograms per cubic meter by approximately 50 percent. This data tends to -- or appears to demonstrate that the model overpredicts the concentrations at the Theodore Roosevelt National Park South Unit. And as we heard yesterday from Bob Paine and heard today from Great River Energy's Earth Tech consultant, that these overpredictions would be even greater had the background

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concentrations been included. The Montana Class I areas are 220 to 280 kilometers from all of the major increment-consuming sources in North Dakota. The IWAQM report cautions about the overpredicting tendencies of Calpuff at these greater distances. EPA should limit its application of the Calpuff model to 200 kilometers.

Three, EPA has not utilized data received in response to the Department requests from industry on July 3rd and 11th of 2001 regarding baseline emissions from industry sources. Industry submitted responses to the Department letters in August and September indicating what they believe are their utilities' baseline emissions. As part of the ongoing North Dakota administrative process, the issue of what constitutes appropriate baseline emissions is slated to be addressed in the North Dakota proceedings.

Four, EPA analysis does not include the baseline oil and gas well emission inventory developed by the Department. The recently compiled Department oil and gas well emission inventory has a significant impact on modeling and results. Because total emissions from both oil and gas inventory have decreased from the baseline period, most recent

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Department modeling analysis includes increment-expansion sources.

Five, EPA has used the 90th percentile of 1999-2000 stationary source emissions. This appears to be arbitrary given that nothing in the statute or regulation prescribes the 90th percentile approach. Furthermore, the Lignite Vision 21 Program understands the Department has expressly not used 1999 emissions data in its analysis because they believe 1999 emissions data are not representative of stationary source operations. In Section 3.1, page 17, of EPA's analysis, it is stated, the two-year study period should generally be the most representative -- most recent two years, provided that the two-year period is representative of normal source operation. Not only are the two years, 2000, 2001 the most recent two years, they are more representative of the normal source operation than the years 1999 and 2000.

Phase 2 of the Clean Air Act Title IV Acid Rain Program was initiated January 1st, 2000. Utility SO2 emissions for the years 2000, 2001 were approximately 30,000 tons less than the years 1998, 1999. Lastly, we understand that EPA has been cautioned previously concerning the flaws in using

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1999 CEMs data related to the problems with stack flow measurements. See the Department's February 27th, 2002 letter to Richard Long. These flow discrepancies are believed to have caused actual emissions to be overpredicted by as much as 20 percent. As a result, EPA should be using more recent and representative emissions data in its modeling analysis.

Six, EPA's analysis is based on the use of a preliminary model, Calpuff, which has not been approved by EPA as an air quality guideline model, Report 40 CFR 51 Appendix W. The model has not gone through the proper administrative rulemaking process. It would be premature to attempt to use this model in regulatory action.

Seven, EPA has not recognized several Department-issued PSD and construction permits prior to Fort Peck Indian Tribe redesignation of its tribal lands in Montana to Class I in 1984. Therefore, EPA has inappropriately applied, retroactively, the PSD increments to Fort Peck using a not-yet approved modeling tool that EPA recognizes to be technically questionable when applied to such distances.

Eight, despite the process used by the

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Clean Air Act -- the process established by the Clean Air Act, the EPA modeling analysis does not recognize the PSD Class I variances granted previously to Dakota Gasification Company and Little Knife Gas Company. The Clean Air Act provides that sources granted variances are subject to the alternate increments, as increased amounts above the Class I increment. EPA is incorrectly considering emissions from these facilities as consuming the Class I increment. The emissions from these facilities, however, do not count against the Class I increment.

Conclusion regarding the EPA modeling analysis: First and foremost, EPA's March 5th letter and attached draft dispersion modeling analysis, if carried to its logical end, would be a preemption of North Dakota's proper role under the Federal Clean Air Act. Since North Dakota is actively working to address the PSD increment-related issues, EPA should respect and defer to the State in the manner indicated and intended by Congress. As we analyze it, the EPA report appears to dilute North Dakota's role in accomplishing these aims. Second, it clearly appears that the EPA modeling analysis is deficient.

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The Department's modeling analysis and PSD assessment, Class I variances: North Dakota has two major sources, the Little Knife Gas Plant and Dakota Gasification Plant, that are operating under Federal Land Manager no adverse impact variances. And I have included the applicable Federal Register citations. In the Department's 2002 modeling analysis the Department properly recognizes that emissions from sources granted Class I certifications or variances under the Clean Air Act Section 165 do not consume increment under a Class I increment analysis. Clean Air Act Section 165 specifically establishes a stepped-up alternative Class I increment for facilities granted a Federal Land Manager no adverse impact certification. I've included the applicable Clean Air Act and North Dakota code, Administrative Code citations.

The Federal Register notices published by the Department of Interior when granting the no adverse impact variances explicitly recognizes alternative increments: The adverse impact determination, however, provides the possible exception to the general rule that a proposed facility must not violate the Class I increment described above. The adverse impact determination,

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which is the subject of this notice, is a site-specific test which examines whether a proposed facility will, in fact, unacceptably affect the resources of a Class I area. If the manager of the federal Class I area determines that the proposed facility will not adversely affect the Class I area, then the permitting facility -- permitting authority may authorize the facility even though the facility's emission may cause a violation of the Class I increment. In this situation, the facility must nevertheless not exceed a revised set of Class I increments established by the Act.

This alternative increment applies to Little Knife and DGC because they have been granted Federal Land Manager no adverse impact certifications, not Class I SO2 increments. We are aware -- we are not aware of any provision in the Clean Air Act, EPA regulations or that North Dakota SIP requires any offsets from existing facilities when a certification or variance is granted under the Clean Air Act.

As such, SO2 emissions from Little Knife and DGC consume increment against the alternative Class I increment under the Clean Air Act.

Baseline emissions rates: To establish

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baseline emission rates the Department considered actual operating hours, the production rates, the types of materials processed or combusted. The Department used the definition of actual emissions provided for in the Administrative Code.

Actual emissions means the average rate of emissions of a contaminant from an emission unit, as determined in accordance with paragraphs 1 through 4.

In general, actual emissions as of a particular date must equal the average rate in tons per year at which the unit actually emitted the contaminant during a two-year period which precedes the particular date and which is representative of normal source operation. The Department may allow the use of a different time period upon a determination that is more representative of normal source operation. Actual emissions must be calculated using the unit's actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected period of time.

The process the Department followed in establishing the baseline emission rates in its April 2002 Prevention of Significant Deterioration

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Sulfur Dioxide Baseline Emission Rates, Baseline Analysis, and April 2002 Prevention of Significant Deterioration Implementation Analysis and Sulfur Dioxide Increment Consumption Assessment Summary appears to be consistent with the North Dakota Administrative Code.

Although the Department did not use -- did not choose to use a source specific level of emission in its determination of baseline, the Administrative Code provides, quote, the Department may presume that source specific allowable emissions for the unit are equivalent to the actual emissions of that unit, end of quote. To the extent that the source specific allowable emissions can be incorporated into the Department's modeling proposal, the Department should consider exercising the flexibility and discretion afforded by the rules.

The Department properly recognizes that oil and gas emissions were substantial in the period set in 1975 to 1980, the period that the Department is recognizing as the baseline period of normal operations. While the Department does not have direct oil and gas emissions data from that period, the Department has calculated emissions from other

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data, i.e., wellhead gas produced and hydrogen sulfate content available from that period. Emissions from oil and gas wells have decreased from a high in 1982 of approximately 34,000 tons to a low in the year of 2000 of 4,900 tons. Any net decrease in emissions from the baseline period has the potential for increment expansion, depending on the source-by-source analysis of emissions. Minor source oil and gas well emissions have been used in previous Department modeling analyses, but without taking into account oil and gas baseline emissions. While the oil and gas baseline emission inventory may require further refinement, the Department correctly includes the inventory in its draft baseline analysis as a basis for the draft increment consumption analysis.

Baseline concentration: In its April 2002 baseline analysis the Department measures PSD Class I increment consumption based on an ambient concentration of sulfur dioxide caused by baseline sources as compared to increment-consuming sources. As cited in the Department's Summary of Legal Procedure and Summary of Legal Issues Relating to Administration of the Prevention of Significant Deterioration Provisions of North Dakota State

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Implementation Plan, Congress expected EPA and the states, quote, to develop and utilize the most accurate and feasible modeling techniques available, end of quote, and, quote, to use actual air quality data to establish the baseline, end of quote, which is defined, quote, in terms of existing ambient concentration levels, end of quote, on the minor source baseline date. In addition, quote, Congress intended that monitoring would impose a certain discipline on the use of modeling techniques, end of quote, through, quote, the development of sophisticated monitoring techniques, end of quote, by which modeling techniques would be, quote, held to earth by the continual process of confirmation and reassessment, a process that enhances confidence in the modeling as a means for realistic projection of air quality, end of quote.

Since reliable sulfur dioxide monitoring data is not available at the baseline date, the Department modeled baseline emission inventory to determine a baseline concentration from which to assess increment consumption as determined by modeling. This approach not only seems reasonable from a practical standpoint, it appears to be consistent with what Congress intended, given that

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actual monitoring data is not available. If the model is good enough to predict increment consumption concentrations, it should be good enough to predict baseline concentrations.

Maximum allowable ambient level, the MAAL: The MAAL was established by the Department using a process indicated on pages 42 to 46 of the April increment consumption analysis. In summary, the process involves:

Modeling the baseline emissions inventory; averaging the receptors over the Class I area; identifying the highest second highest concentration from the baseline source emissions predictions; adding increment to the high second high baseline predictions, which establishes the MAAL; modeling the current source emissions inventory; identifying the high second high concentration from the current source emissions predictions; and determining compliance by high second high concentration relative to the MAAL.

This approach appears to be consistent with the intentions of Congress. The 1977 PSD amendments to the Clean Air Act define the 24-hour and 3-hour baseline concentrations as, quote, second highest measured or estimated concentration at a given site,

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end of quote. And I've included the applicable Federal Register cite. Additionally, with the establishment of the MAAL, air quality monitoring could be used to determine whether the MAAL has been exceeded.

Receptor averaging: Receptor averaging provides a uniform prediction for each Class I area. Class I areas in North Dakota represent relatively small landmasses when considering, one, the large, 100- to 200-kilometer differences between these Class I areas are from the major increment-consuming sources and, two, the meteorological variables involved. Some of the meteorological variables include surface elevations, surface coverage, cloud cover, wind speeds, wind directions, atmospheric stability, et cetera. It is not reasonable to believe that models can predict differences in real world sulfur dioxide con -- real world sulfur dioxide emissions with reliable accuracy at receptor locations that are located only a few kilometers apart on a 3-hour basis. Averaging the predicted concentrations over the receptors in each Class I area provides for a more realistic concentration for that period of interest, i.e., 3-hours or 24-hours. Receptor averaging results in a single concentration

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to represent the impacts in the Class I area for the respective time intervals. Receptor averaging takes into consideration the limitations of long-range dispersion modeling. It is because of the predictive limitations of the model the Department's approach to receptor averaging over each Class I area is appropriate.

Redesignation of Fort Peck Indian Reservation to Class I: Because the Department issued PSD and construction permits prior to Fort Peck Indian Tribe redesignation of its tribal lands in Montana to Class I in 1994, it would be inappropriate to apply, retroactively, the PSD increments to Fort Peck.

Application of the Calpuff model over distances exceeding 200 kilometers. The Department has applied its analysis to include Fort Peck and Medicine Lake Wilderness areas in Montana, which are well beyond 200 kilometers from sources in North Dakota. These distances are beyond the recommended application range of the Calpuff model for the same reasons I have cited previously under the EPA modeling analysis in my testimony. The Department should limit its application of the Calpuff model to distances of 200 kilometers or less.

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In conclusion, states like North Dakota, consistent with the Clean Air Act, are best served to balance all the competing air quality interests in the State and to construct a well-designed set of air quality programs. The intent of Congress was for the states to manage the PSD program. In that spirit North Dakota has an EPA-approved SIP which includes the PSD program.

North Dakota citizens enjoy some of the cleanest air in the nation, being one of only 15 states that meets all of the national ambient air quality standards. Over the past two decades, air quality in the Class I areas has steadily improved, not deteriorated based upon the Department's ambient air quality monitoring data. The ambient air quality levels currently being measured are very low in the Class I areas. Sulfur dioxide emissions from all sources have decreased by approximately 59,000 tons from 1996 to 2001. Nitrogen oxide emissions from all sources have decreased by approximately 28,000 tons from 1995 to 2001. Therefore, the Lignite Vision 21 Program supports the position that, one, the North Dakota SIP is adequate to prevent the significant deterioration of air quality. Two, the Department's technical

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assessment, while it needs further refinement, supports the finding that the SIP is adequate and, 3, EPA should respect and defer to North Dakota's ongoing administrative efforts, given that North Dakota has an EPA-approved PSD program.

At this time I would be willing to try and answer any questions.

MR. SCHWINDT: Thank you, Mr. Burgess. Are there any questions?

MR. HARMS: Jeff, just one or two, perhaps. Yesterday I was speaking with Scott Fry of Dakota Resource Council, and I asked him about his thoughts with respect to the State's goal of allowing for economic development and still maintaining its air quality.

And you and I had some discussions about that question on the record. And I guess I'm curious about your thoughts on whether the State of North Dakota, the Department of Health, in particular, can protect North Dakota's air quality for the future while at the same time allowing for economic development to occur, such as the Lignite Vision 21 Program that you're speaking of this afternoon, and if you think that's attainable, maybe you could offer us some suggestions as to how you

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think that would be done or could be done.

MR. BURGESS: Okay. Well, first, I do think that economic development and environmental protection are not mutually exclusive. I think the Department has done a good job in administering the environmental programs and air pollution programs over the last three decades. I've seen many times over during this hearing the charts showing the ambient air quality monitoring data, how it's improved. Also, industry has stepped up to the plate and done their share as far as contributing to the environmental quality of the State. They instituted hundreds of millions of dollars of pollution control equipment on existing facilities. The oil and gas industry has been very influential in the impacts on the park in their data -- in their gas collection systems.

As far as the future is concerned, Andrea Stromberg mentioned other environmental rules that are coming down the pike that are going to continue to assure that air quality in the State is protected. A facility such as a Lignite Vision 21 facility, which I am particularly interested in as being a representative of the Industrial Commission, will be instituting the state-of-the-art clean coal

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technologies and state-of-the-art pollution control technologies. And so the long and short of it is, that, yes, I think the State can protect air quality consistent with allowing economic development.

Let me add one more thing, too, is that the North Dakota State Legislature intended for the Department of Health to protect the environment, air quality, and other components of the environment as well as to promote social and economic development. It's written right into the air pollution control law under a section called something to the effect of legislative intent, so those, although challenging, mandate -- their role is not inconsistent with what the legislative intent is.

MR. HARMS: One other question. You talked about the new facilities, and I guess I'm interested in knowing, were you telling us the differences between what a new facility might produce in terms of emissions versus what some of the other facilities are that are operating around the country just on a percentage basis how they compare?

MR. BURGESS: Well, I think some of the figures I've seen on an annual basis, a new facility would be on the order of about 4,000 tons per year, and -- which are a fraction, maybe 10 percent of

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some of the emissions from some of the facilities for the same -- for about the same size.

MR. HARMS: Okay. No further questions.

MR. WITHAM: Lyle Witham. Jeff, Terrence Karpong yesterday, I thought gave good testimony, some powerful imagery about the view from the Assumption Abbey and impacts in terms of -- on his aesthetic experience, anyway, from that perspective. But he made -- and some of the other members of Dakota Resource Council, at least this is what I got from their testimony, the hearing officer can judge for himself, but there seemed to be kind of a conception that development of wind resource and development of coal resource are an either/or proposition. Is that the case, or is there really to develop one and the other, they need to be developed synergistically? I just wanted to give you an opportunity to comment on that.

MR. BURGESS: Well, I don't think that it needs to be either/or. I think it's up to the developer. I know that for some people green energy is popular and they're willing to pay more. For other people I know that they have enjoyed cheap electricity and some people need cheap electricity based on their economic status. I think that as

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part of the Lignite Vision 21 Program and the contract that the Lignite Energy Council, Lignite Vision 21 Program has with the Industrial Commission, the strategies and activities include coal/wind partnerships with the Lignite Vision 21 applicants and participants. So I think that they politically and realistically complement each other.

MR. WITHAM: No further questions.

MR. SCHWINDT: Thank you. Any other questions? Paul.

MR. GREEN: If we were to get past all these hurdles and get the extra generation, how are we going to get the electricity out of the State of North Dakota?

MR. BURGESS: I don't recall that being part of my testimony, transmission, but --

MR. BUCHMAN: What?

MR. BURGESS: I don't recall testifying on transmission.

MR. GREEN: It's my understanding that the two units up at Underwood are not running at full load. They can't get the power out. It's also my understanding that the ranchers, farmers, eastern North Dakota, Minnesota, they're out there with their shotguns and rifles, they're not going to let

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any more towers be put up. It's not a matter of rules and regulations. They're going to take the law in their own hands. First of all, we're going to have to get the power out of North Dakota. And if we get a means to do it, why don't we look at burning Powder River coal?

I have a friend around Bozeman, down in Gillette, who is in charge of all coal sales for Kennecott Energy. They have an agreement with Burlington Northern they could get Powder River coal in here at a cheaper cost per Btu than you can go out and get your hands dirty mining this lignite. It's 9,500 Btu, 20 percent water, one-sixth the amount of sulfur. It seems to me that would be ideal if we are going to look to expand and build more power plants here in North Dakota.

I understand that Basin is -- at Lee Olds 1 and 2 are burning some sort of a mix of lignite and Powder River.

MR. BURGESS: Paul, my testimony was on merits and deficiencies of the Department's and EPA's review of the PSD program. I'm not talking about the merits of Powder River/Basin coal, lignite coal, transmission or anything like that.

MR. GREEN: Well, it's obvious I didn't

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bring it up just for you, Jeff. I wanted to raise it so the other people could hear this. You know, there's many ways to skin a cat and when you get it all done, you want to do it as cheaply as possible and leave as much of the cat left. I don't care for eating grilled cat myself. I'll shut up.

MR. SCHWINDT: Any other questions? Thank you, Mr. Burgess. That's all the testimony that I have scheduled as part of the process. But is there any other testimony that someone wishes to provide? Seeing none, any further comment that anybody wishes to make and any rebuttal to the testimony that you have heard can be submitted to me at the Department of Health address -- that's Box 5520, Bismarck, North Dakota 58506 -- by May 24th. In addition, copies of the transcript will be available next week, it's my understanding. You may contact the court reporters directly for copies of that. Is that the correct process? Anything else? Deb?

MS. LEVCHAK: Are you entertaining requests for extensions, or do you intend to rule on that?

MR. SCHWINDT: We did extend it to May 24th.

MS. LEVCHAK: Sorry, Fritz. All right.

MR. SCHWINDT: Any further comments can be

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submitted by May 24th. Anything else? If not, we stand adjourned. Thank you for your attention.

(Concluded at 3:20 p.m., Wednesday, May 8, 2002.)

CERTIFICATE OF COURT REPORTER

I, Denise Andahl, a Registered Professional Reporter,

DO HEREBY CERTIFY that I recorded in shorthand the foregoing proceedings (pages 1-87, 200-214, and 457-576) had and made of record at the time and place hereinbefore indicated.

I DO HEREBY FURTHER CERTIFY that the foregoing typewritten pages contain an accurate transcript.

Dated at Bismarck, North Dakota, this 15th day of May, 2002.

Denise Andahl
Registered Professional Reporter

CERTIFICATE OF COURT REPORTER

I, Linda L. Gingery, a Registered Professional Reporter,

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Dated at Bismarck, North Dakota, this 15th day of May,. 2002.

Linda L. Gingery
Registered Professional Reporter